

B4100

USER'S GUIDE



OKI

PREFACE

Every effort has been made to ensure that the information in this document is complete, accurate, and up-to-date. The manufacturer assumes no responsibility for the results of errors beyond its control. The manufacturer also cannot guarantee that changes in software and equipment made by other manufacturers and referred to in this guide will not affect the applicability of the information in it. Mention of software products manufactured by other companies does not necessarily constitute endorsement by the manufacturer.

While all reasonable efforts have been made to make this document as accurate and helpful as possible, we make no warranty of any kind, expressed or implied, as to the accuracy or completeness of the information contained herein.

The most up-to-date drivers and manuals are available from the Oki Europe website:

<http://www.okieurope.com>

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As an Energy Star Program Participant, the manufacturer has determined that this product meets the Energy Star guidelines for energy efficiency.



This product complies with the requirements of the Council Directives 89/336/EEC (EMC) and 73/23/EEC (LVD) as amended where applicable on the approximation of the laws of the member states relating to electromagnetic compatibility and low voltage.

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NOTES, CAUTIONS AND WARNINGS

NOTE

A note appears in this manual like this. A note provides additional information to supplement the main text which may help you to use and understand the product.

CAUTION!

A caution appears in this manual like this. A caution provides additional information which, if ignored, may result in equipment malfunction or damage.

WARNING!

A warning appears in this manual like this. A warning provides additional information which, if ignored, may result in a risk of personal injury.

INTRODUCTION

Congratulations on purchasing this 18 pages per minute monochrome page printer.

Your new printer is designed with a range of advanced features to give you crisp black and white pages at high speed on a wide range of print media.

For your information, a summary of the main features of your printer is given below.

PRINTER FEATURES

- ❖ Memory: 8MB
- ❖ High speed printing: 18 pages per minute
- ❖ Resolution: 1200x600 dpi
- ❖ Paper handling: 250 sheets (80g/m²)
- ❖ Emulation: Host-based
- ❖ USB 2.0 and parallel interfaces
- ❖ “Ask Oki” – a brand new, user-friendly function that gives a direct link from your printer driver screen (but not illustrated in this guide) to a dedicated web site specific to the exact model you are using. This is where you will find all the advice, assistance and support you could need to help you get the best possible results from your printer.

USING YOUR PRINTER

To help you get the most from your printer, the manufacturer has provided a variety of supporting materials of which this manual is one example. A summary of these materials and their purposes is given in the following chapter.

ABOUT THIS MANUAL

This manual is the user's guide (check the Oki website, www.okieurope.com, for the most up-to-date version) for your printer and forms part of the overall user support listed below:

- ❖ **Quick set-up guide:** to describe how to unpack, connect and power up your printer.
- ❖ This **User's Guide:** to help you to operate your printer and make the best use of its many features. Also included are guidelines for troubleshooting and maintenance to ensure that it performs at its best.
- ❖ **Installation Guides:** accompany consumable items to describe how to install them.
- ❖ **Online Help:** online information associated with the printer driver and Status Monitor software.

ONLINE USAGE

This manual is intended to be read on screen using an Adobe Acrobat Reader. Use the navigation and viewing tools provided in Acrobat.

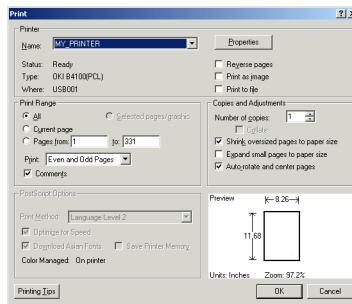
You can access specific information in two ways:

- ❖ In the list of bookmarks down the left hand side of your screen, click on the topic of interest to jump to the required topic. (If the bookmarks are not available, use the Table of Contents.)
- ❖ In the list of bookmarks click on Index to jump to the Index. (If the bookmarks are not available, use the Table of Contents.) Find the term of interest in the alphabetically arranged index and click on the associated page number to jump to the page containing the subject.

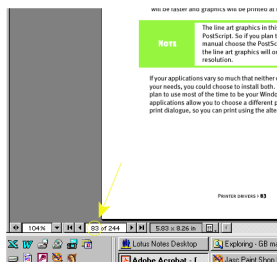
PRINTING PAGES

The whole manual, Individual pages, or sections may be printed. The procedure is:

1. From the toolbar, select [File], then [Print] (or press the Ctrl + P keys).
2. Choose which pages you wish to print:
 - (a) [All pages], for the entire manual.
 - (b) [Current page] for the page at which you are looking.



- (c) [Pages from] and [to] for the range of pages you specify by entering their page numbers.



3. Click on [OK].

ABBREVIATIONS USED

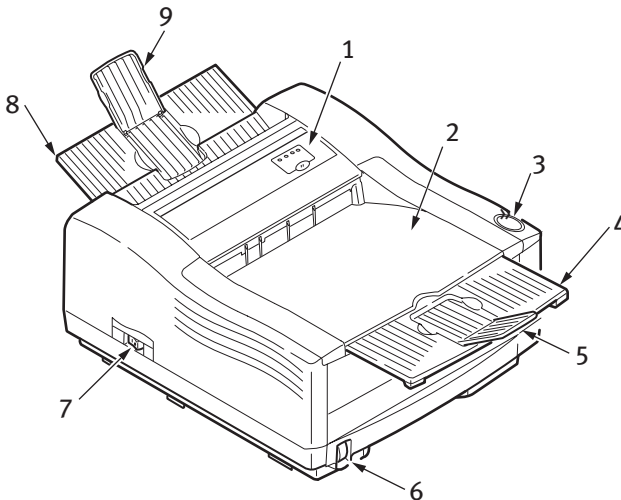
The following abbreviations are used in this manual:

Abbreviation	Meaning
Ctrl	Control
dpi	dots per inch
LED	Light Emitting Diode
MFT	Manual Feed Tray
RAM	Random Access Memory
SIDM	Serial Impact Dot Matrix

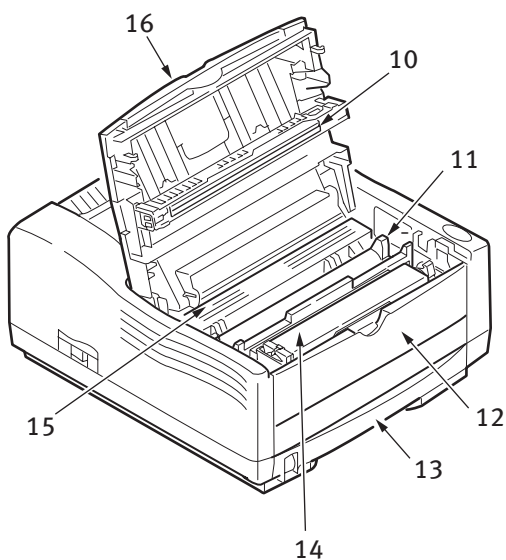
PRINTER COMPONENTS

The important components of your printer are identified in the following illustrations.

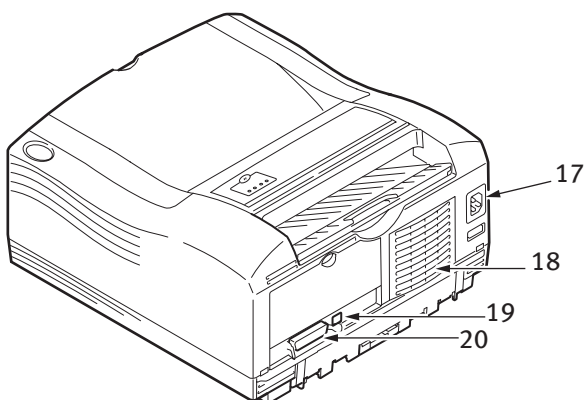
1. Operator panel
2. Top paper exit bin (150 sheets, face down)
3. Top cover release button
4. Top paper exit bin extension
5. Top paper exit bin extension paper guide
6. Paper tray content indicator
7. ON/OFF switch
8. Rear paper exit tray (50 sheets, face up)
9. Rear paper exit tray paper guide



- 10. LED array
- 11. Image drum
- 12. Manual feed tray (single sheet) (shown in closed position)
- 13. Paper feed tray (250 sheets)
- 14. Toner cartridge
- 15. Fuser unit
- 16. Top cover



- 17.** Power cable connection
- 18.** Cooling fan
- 19.** USB interface connection
- 20.** Parallel interface connection



OPERATOR PANEL AND STATUS MONITOR

This chapter describes the function of your printer's operator panel. It is also useful to describe the Status Monitor software at this point as it provides printer status information and allows you to access the printer menus to set printer parameters such as, for example, paper size. (See "Printer Drivers" for installation of the Status Monitor.)

OPERATOR PANEL LAYOUT

The operator panel consists of 4 indicating LEDs and a control button. From left to right, the LEDs indicate Power On, Ready, Manual feed and Error.



LED INDICATORS

The LED indicators show the status of the printer and have five operating conditions as follows:

- ❖ Indicator off
- ❖ Indicator on
- ❖ Flash 1 - slow blink - 1 long flash every 4 seconds
- ❖ Flash 2 - blink - 1 flash per second
- ❖ Flash 3 - rapid blink - 4 flashes per second.

All four LED indicators come on momentarily when power is switched on using the main power switch.

Power on LED (green)

This indicator comes on and stays on when the printer is switched on using the main power switch.

Ready LED (green)

- ❖ Indicator **on** - the printer is **on-line** and ready to receive data.
- ❖ Indicator **off** - the printer is **off-line** and cannot receive data.

The meaning of the indicator LEDs when they flash (x) is summarised as follows:

Flash type	Ready LED (Green)	Manual feed LED (Amber)	Error LED (Amber)	Meaning
Flash 1 – slow blink	x			The printer is data processing when printing has been suspended.
			x	The image drum requires changing or toner is low.
Flash 2 – blink	x			The printer is receiving and processing data during printing or the printer is resetting itself.
		x		The printer is requesting that manual feed is used for paper feed.
			x	There is a printing error, problem with paper or a cover open.
	x	x	x	There is a minor error with the printer.
Flash 3 – rapid blink	x	x	x	There is a major error with the printer.

CONTROL BUTTON

The primary functions of the control button are activated by pressing the switch momentarily and releasing. The primary functions are as follows:

- ✦ Turning the printer off-line.
- ✦ Turning the printer on-line (ready).
- ✦ Resuming printing after a paper error, paper jam, print overrun, page overflow, or receiving buffer overflow.
- ✦ Interrupting data processing when the printer is receiving and processing data.
- ✦ Resuming data processing.

The secondary functions of the control button are activated after turning the printer off line, then pressing and holding the switch for at

least two seconds before releasing. The secondary functions are as follows:

- ...❖ Printing the demo and menu pages.

NOTE

Demo and menu pages can also be printed using the printer Status Monitor.

- ...❖ Printing any data held in the buffer after printing has been cancelled.

The other functions of the control button are activated after turning the printer off line then pressing and holding the switch for at least five seconds before releasing. The other functions are as follows:

- ...❖ Printing a cleaning page.

NOTE

A cleaning page can also be printed using the printer Status Monitor.

- ...❖ Resetting the printer and clearing the buffer after printing has been cancelled.

NOTE

To reset the printer to the default settings of the manufacturer, the control button is pressed and held down while the printer is switched on with the main power switch. The LED indicators blink when the printer has reset to the default settings.

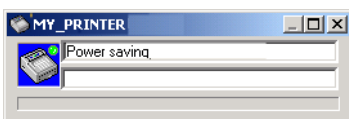
STATUS MONITOR

After installing the printer driver software onto your computer, the Status Monitor is then installed to indicate what is happening to the printer when it is being used. (See the chapter entitled “Printer Drivers”.) This Status Monitor is also used to control and change the various printer settings.

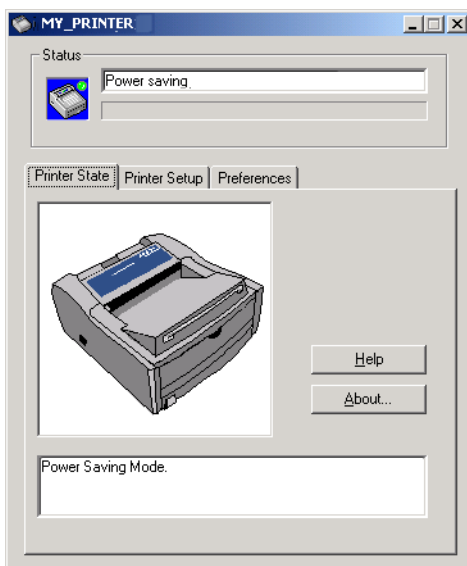
Using the Printer Status Monitor

Viewing the status of the printer, and viewing or changing the printer settings are carried out as follows:

1. Click on [Start], [Programs] and select the **Status Monitor**. The current printer status is shown.



2. Click on the window **maximise** button and the view will expand to include the **Printer State**, **Printer Setup** and **Preferences** tabs.

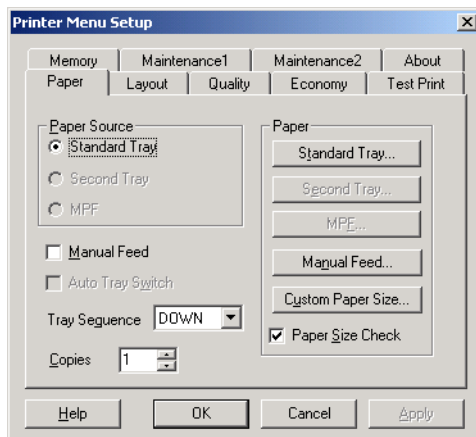


Printer State Tab

This tab provides more detailed information about printer status.

Printer Setup Tab

Selecting this tab provides access to the Printer Menu button, which, when selected, enables configuration of the printer settings via a series of tabs described in outline below. At all stages, detailed on-line help is provided via the **Help** button.



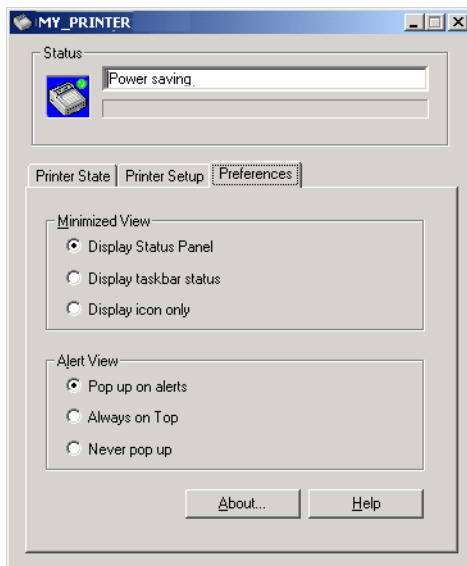
1. **Paper:** set paper size for standard tray and manual feed, tray sequence and default number of copies.
2. **Layout:** set paper cassette size, printer emulation, lines per page and paper orientation.
3. **Quality:** set resolution (dpi), and darkness.
4. **Economy:** set power save delay, toner save, auto eject time, manual timeout, low toner action and jam recovery.
5. **Test Print:** print demo page, printer menu setting list, and clean the printer.
6. **Memory:** Confirm buffer size.
7. **Maintenance 1:** configure printer USB and parallel interfaces, clearable warning timing and reset drum counter and menu.
8. **Maintenance 2:** adjust print and page positions, settings, power save setting enable/disable, and select to print an error report.

9. **About:** about this printer.

Preferences Tab

Selecting this tab provides the means to choose the information displayed by the Status Monitor and how/when the Status Monitor appears.

The default Alert view setting ensures that the Status Monitor pops up to inform you of a condition that requires your attention e.g. toner low.



MENU FUNCTIONS

The printer menu settings made from the Status Monitor can be seen collectively on a printed Menu Map. (For details of how to print such a map, see “Printing menu settings”.)

It should be noted that many of these settings can be, and often are, overridden by settings made in the printer drivers. However, several of the driver settings can be left at “Printer Setting”, which will then default to the settings entered in these printer menus.

The menu functions and their default values are summarised in the table in the section entitled “Menu Functions”.

CHANGING THE DISPLAY LANGUAGE

Carry out the following instructions to change the language that is displayed in the Status Monitor.

1. Start the Status Monitor.
2. Select the Printer Setup tab.
3. Click the Printer Menu button.
4. On the Maintenance 2 tab, select the required language in the [Language] dropdown menu.
5. Click on [OK].

PRINTING MENU SETTINGS

The menu settings can be printed as a menu map as follows.

Using the control button

1. Press the control button to take the printer off-line.
2. Press and hold down the control button for at least two seconds, but less than five seconds.
3. The printer prints a list of the menu settings and a demo print page.

NOTE

Demo and menu pages can also be printed using the printer Status Monitor.

MENU FUNCTIONS

This section summarises the menus accessed via the Status Monitor. The printer menu settings can be seen collectively on a printed Menu Map. (For details of how to print such a map, see “Printing menu settings”.)

It should be noted that many of these settings can be, and often are, overridden by settings made in the printer drivers. However, several of the driver settings can be left at “Printer Setting”, which will then default to the settings entered in these printer menus.

Factory default settings are shown in the following tables.

Information Menu

This menu provides a quick method of listing various items stored within the printer.

INFORMATION MENU	
Item	Action
PRINT MENU MAP	Execute
DEMO1	Execute

Media Menu

This menu provides adjustment to suit a wide range of print media.

MEDIA MENU		
Item	Default	Remarks
TRAY 1 PAPER SIZE	A4 SIZE	
TRAY 1 MEDIA TYPE	PLAIN	
TRAY 1 MEDIA WEIGHT	MEDIUM	
MANUAL PAPER SIZE	A4 SIZE	
MANUAL MEDIA TYPE	PLAIN	
MANUAL MEDIA WEIGHT	MEDIUM	
UNIT OF MEASURE	mm	
X DIMENSION	210 mm	
Y DIMENSION	297 mm	

System configuration menu

This menu adjusts general printer settings to suit the way you prefer to work.

SYSTEM CONFIGURATION MENU		
Item	Default	Remarks
POWER SAVE DELAY TIME	15 MIN	
CLEARABLE WARNING	ON	
MANUAL TIMEOUT	60 SEC	
WAIT TIMEOUT	40 SEC	
LOW TONER	CONTINUE	
JAM RECOVERY	ON	

Parallel menu

This menu controls the operation of the printer's parallel data interface.

PARALLEL MENU		
Item	Default	Remarks
PARALLEL	ENABLE	
BI-DIRECTION	ENABLE	
ECP	ENABLE	
ACK WIDTH	NARROW	
ACK/BUSY TIMING	ACK IN BUSY	
I-PRIME	3 MICRO SEC	

USB menu

This menu controls the operation of the printer's USB data interface.

USB MENU		
Item	Default	Remarks
USB	ENABLE	
SOFT RESET	ENABLE	
SERIAL NUMBER	ENABLE	

Maintenance menu

This menu provides access to various printer maintenance functions.

MAINTENANCE MENU		
Item	Default	Remarks
EEPROM RESET		
DRUM COUNT RESET		
POWER SAVE	ENABLE	
SETTINGS	0	
DARKNESS	0	
CLEANING PAGE		

Usage menu

This menu is for information only, and provides an indication of total usage of the printer and the expected life left in its consumable items. This is particularly useful if you do not have a full set of replacement consumables to hand and you need to know how soon you will need them.

USAGE MENU		
Item	Default	Remarks
DRUM LIFE	REMAINING %	
TONER	2.5K= %	

PAPER RECOMMENDATIONS

For guidance on the media you can use with your printer, which input tray and which ejection method to use, see the section entitled “Paper and tray information” in the “Specifications” chapter.

PAPER AND ENVELOPE TYPES

The manufacturer of this printer recommends the following guidelines when selecting paper and envelopes for use in your printer:

- ❖ Paper and envelopes should be stored flat and away from moisture, direct sunlight and heat sources.
- ❖ Use a smooth finished paper such as copier or laser type paper with a Sheffield (smoothness) rating of 250 or less. If in doubt, please ask your paper supplier.
- ❖ Use envelopes designed for use in laser type printers.
- ❖ The use of heavily laid or textured paper will seriously impact on the life of the image drum.
- ❖ Do not use very smooth, shiny/glossy paper.
- ❖ Do not use heavily embossed headed paper.
- ❖ Avoid printing on both sides and putting paper through the printer twice.
- ❖ Avoid using paper with perforations, cut-outs and ragged edges.
- ❖ Do not use envelopes with windows or metal clasps.
- ❖ Do not use envelopes with self sealing flaps.
- ❖ Avoid using damaged or curled envelopes.

TRANSPARENCIES AND ADHESIVE LABELS

The manufacturer of this printer recommends the following guidelines when selecting transparencies and adhesive labels for use in your printer:

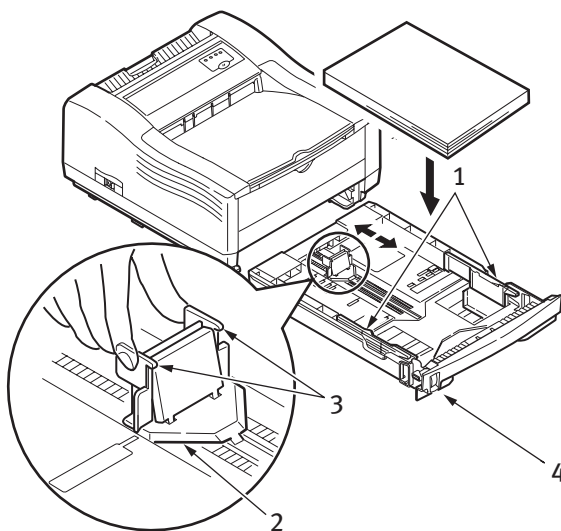
- ❖ Always use manual feed.
- ❖ Always use rear output.
- ❖ Media must be designed for use in laser printers or photocopiers and must be able to withstand 200°C for 0.1 sec.
- ❖ Do not use media designed for use in colour laser printers and photocopiers
- ❖ Labels should cover entire carrier sheet.
- ❖ Carrier sheet or adhesive **must not** be exposed to any part of the printer.

INSTALLING PAPER

NOTE

If you are topping up the paper in the paper tray, it is recommended that you remove the remaining paper from the tray first then add the new paper stock followed by the paper you removed. This ensures that the oldest paper is used first to help prevent paper jams.

1. Remove the paper tray from the bottom of the printer and place plain paper in the tray, keeping the level of the paper in the tray below the guide arrowheads shown on the paper guides (1).



NOTE

Load letter headed paper face down and top edge towards the front of the paper tray.

2. Adjust the rear paper support (2) to the size of paper you are using by gripping the lugs (3), tilting and sliding the support forwards or backwards as necessary.
3. Adjust the paper guides (1). It is important to adjust the paper guides correctly to ensure that the paper is not skewed in the print process. Paper jams may occur if this operation is not carried out correctly.
4. Replace the tray in the printer. The paper level indicator (4) provides a visual indication of how much paper is left in the tray.

FACE UP AND FACE DOWN PRINTING

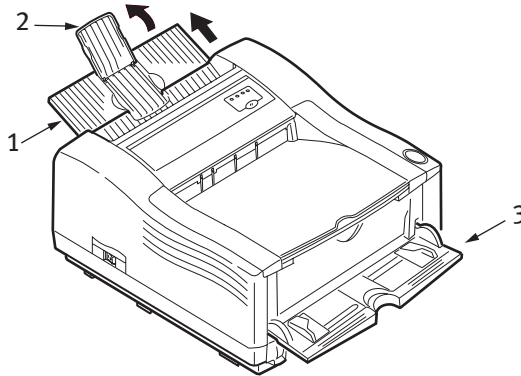
For face down printing, make sure the rear paper exit tray is closed (the paper exits from the top of the printer). The paper exit bin on the top of the printer stacks printed pages face down, capacity 150 sheets of weight 80 g/m². Pages printed in reading order (page 1 first) will be sorted in reading order (last page on top, facing down).

For face up printing, make sure the face up rear paper exit tray is open and the paper guide is extended if required. In this condition, paper will exit via this path, regardless of driver settings. Paper is stacked in reverse order, capacity 50 sheets of weight 80 g/m².

Always use this tray and the manual feed tray for heavyweight stocks to reduce the possibility of paper jams.

PRINTING ENVELOPES

1. Pull out the rear paper exit tray (1) until it locks and lift out the paper guide (2).



2. Pull down the manual feed tray (3) and adjust the paper guides to the width of the envelope.
3. Insert the envelope, flap down and to the left, until the printer grips it.
4. Set envelope size and landscape orientation in your software, then issue the print command.

HEAVYWEIGHT PAPER OR CARDSTOCK

The normal paper path from a main paper tray to the top output stack involves two complete U-turns. This may sometimes cause very heavyweight paper or cardstock to jam or misfeed.

Use the manual feed tray to feed this type of paper and the rear paper exit to collect printed output. This gives a nearly straight paper path through the machine and may prove more reliable in this type of application.

PAPER FEED, SIZE AND MEDIA SETTING

The process used to fuse (fix) the printed image to the paper involves a mixture of pressure and heat. Too much heat will cause lightweight paper to crease or curl and corrugations in transparencies. Too little heat will cause the image not to fuse fully into heavyweight paper.

NOTE

Although media properties can be set in the printer driver for particular jobs, when filling a tray with media it is recommended that you manually set the printer to match the media as described here.

The print quality for different types of paper is adjusted by changing the media type as follows:

1. Start the **Status Monitor**.
2. Click on [Printer Setup] tab - [Printer Menu] button - [Paper] tab. Click on the button for the paper tray being used. Adjust the media type to the required setting and, if necessary, the paper size to the size of the paper being used.
3. Click on the [Apply] button, [Close] button then [OK] button to set the printer to the new media type and printing quality.

Printing transparencies

When printing transparencies, the manual feed must be used and the media type changed to transparencies as follows:

CAUTION!

Damage to the printer may occur if the incorrect setting is used when printing transparencies.

1. Open the manual feed on the printer and place the transparency face up between the paper guides.
2. Adjust the paper guides to the width of the transparency.
3. Start the **Status Monitor**.

4. Click on [Printer Setup] tab - [Printer Menu] button - [Paper tab] - [Manual Feed] button. Adjust the media type to Transparency and the paper size to the size of the transparency being used.
5. Click on the [Apply] button, [Close] button then [OK] button to set the printer for transparencies.

NOTE

Remember to reset the printer for normal paper after printing transparencies.

INTERFACES

Your printer is equipped with two data interfaces:

1. **Parallel** – For direct connection to a PC. This port requires a bi-directional (IEEE 1284 compliant) parallel cable.
2. **USB** – For connection to a PC running Windows 98 or above (not Windows 95 upgraded to Windows 98) or Macintosh. This port requires a cable conforming to USB version 2.0 or above.

The operation of a printer is not assured if a USB-compatible device is connected concurrently with other USB-compatible machines.

When connecting multiple printers of the same type, they appear as *****, ***** (2), ***** (3), etc. These numbers depend on the order of connecting or turning on each printer.

NOTE

- ❖ It is not recommended that you connect USB and parallel cables to the printer simultaneously.
- ❖ Interface cables are not supplied with your printer.

Proceed to the chapter entitled “Printer Drivers”.

PRINTER DRIVERS

This chapter describes how to install a printer driver on two types of operating system – Windows and Macintosh.

The printer drivers are all contained on the printer driver CD-ROM (CD1). Please refer to the readme file on this CD for the latest information on printer driver installation.

WINDOWS OPERATING SYSTEMS

1. With Windows running, insert the printer driver CD-ROM (CD1) into your CD-ROM drive.
2. If the CD does not run automatically, use [Start]-[Run...] and enter E:\setup (where E is your CD-ROM drive) in the Open field.
3. Click on [OK].
4. Click on [Driver Installation] then [Install Printer Driver] and follow the on-screen prompts to complete your printer driver installation.
5. After installing the driver(s) click on Software Utilities, select and install the Status Monitor.

NOTE

Take time to note the facilities available on the CD. For example, the Help facility briefly describes each of the Software Utilities.

MACINTOSH OPERATING SYSTEMS

Please refer to the readme file on CD1 for details on installing the appropriate Macintosh drivers.

OPERATION

This chapter provides a broad outline of how to operate your printer from either a Windows or a Macintosh environment.

PRINTER SETTINGS IN WINDOWS

NOTE

The illustrations in this guide relate to Windows 2000 – other operating system windows may appear slightly different but the principles are the same.

The Status Monitor controlled menus (described in the chapter entitled “Operator panel and Status Monitor”) provide access to many options.

The Windows printer driver also contains settings for many of these items. Where items in the printer driver are the same as those in the Status Monitor menus, and you print documents from Windows, the settings in the Windows printer driver will override those settings in the Status Monitor menus.

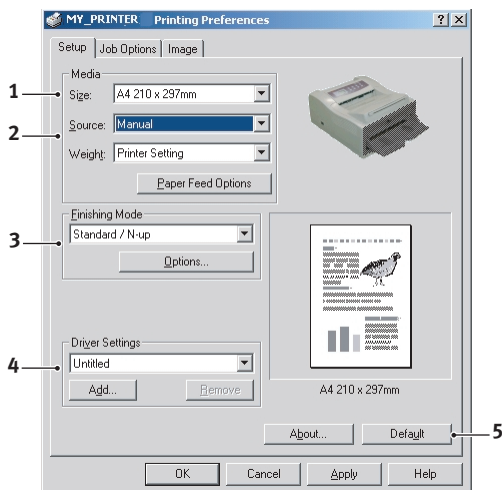
PRINTING PREFERENCES IN WINDOWS APPLICATIONS

When you choose to print your document from a Windows application program a Print dialogue box appears. This dialogue usually specifies the name of the printer on which you will print your document. Next to the printer name is a **Properties** button.

When you click **Properties** a new window opens which contains a short list of the printer settings available in the driver, which you can choose for this document. The settings available from within your application are only those which you may want to change for specific applications or documents. Settings you change here will usually only last for as long as the particular application program is running.

The tabs available are the **Setup Tab**, the **Job Options Tab** and the **Image Tab**.

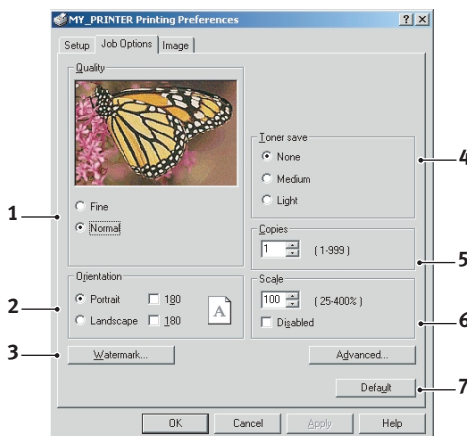
Setup tab.



1. Paper size should be the same as the page size of your document (unless you wish to scale the printout to fit another size), and should also be the same as the size of paper you will feed into the printer.
2. You can choose the source of the paper to feed, which may be Tray 1 (the standard paper tray) or Manual Feed. You can also click on the appropriate part of the screen graphic to select your preferred tray.

If you select manual, the Weight selection box becomes visible. You can leave the setting at Printer Setting or select as required.
3. A variety of document finishing options can be selected, such as normal one page per sheet, or N-up (where N can be 2 or 4) for printing scaled down pages at more than one page per sheet.
4. If you have changed some printing preferences before and saved them as a set, you can recall them to avoid having to set them individually each time you need them.
5. A single on-screen button restores the default settings.

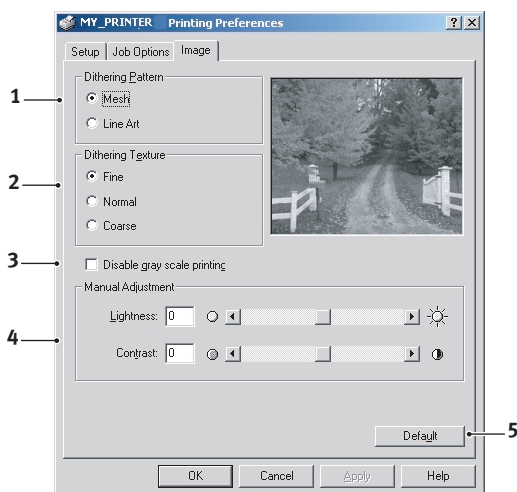
Job Options tab



1. The output resolution of the printed page can be set as follows.
 - ❖ The highest quality setting prints at 1200 x 600dpi. This option requires the most printer memory and takes the longest to print.
 - ❖ The normal setting prints at 600 x 600dpi and is adequate for all but the most discerning applications.
2. Page orientation can be set to either portrait (tall) or landscape (wide) or portrait or landscape rotated by 180 degrees.
3. You can print watermark text behind the main page image. This is useful for marking documents as draft, confidential, etc.
4. You can set a degree of toner saving for particular print jobs.
5. You can select up to 999 copies to print consecutively, although you will need to top up the paper tray during such a long print run.

6. Your printed pages can be scaled to fit larger or smaller stationery or the scaling function can be disabled by checking the Disable checkbox.
7. A single on-screen button restores the default settings.

Image tab



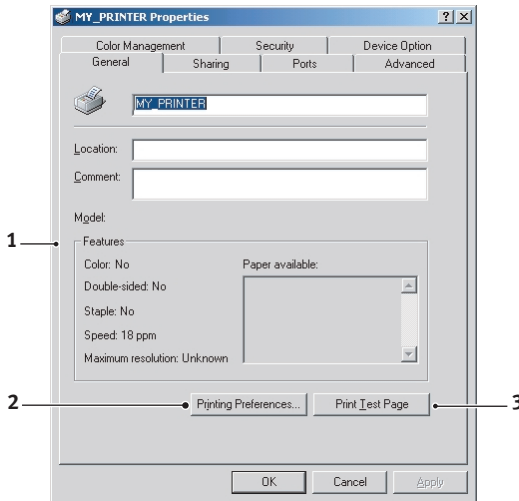
1. Dithering produces an intermediate greyscale by adjusting the combination of dots used in printing. Selecting a setting determines the degree of detail with which a graphics image will be printed. Mesh determines that a screen of dots is used for dithering while Line Art determines that an array of lines is used for dithering.
2. Select dithering texture by setting the size of dots used in the halftone screen.
3. Set this control to print greyscale effects in black without dithering.
4. You can manually adjust lightness (the higher the setting the lighter the print) and contrast (the higher the setting the greater the contrast).

SETTING FROM WINDOWS CONTROL PANEL

When you open the driver properties window directly from Windows, rather than from within an application program, a somewhat more extensive range of settings is provided. Changes made here will generally affect all documents you print from Windows applications, and will be remembered from one Windows session to the next.

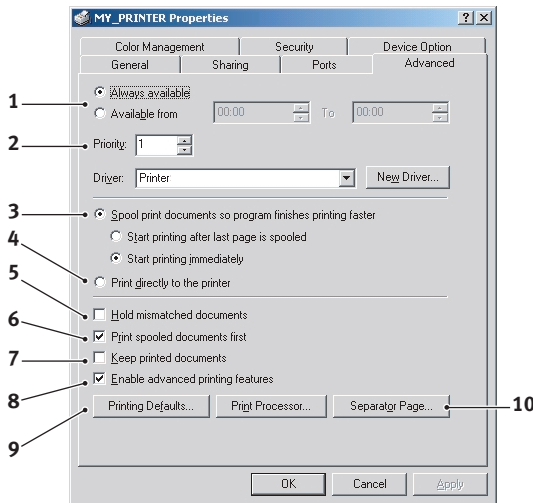
The main tabs are the **General Tab** and **Advanced Tab**.

General tab



1. This area lists some of the main features of your printer.
2. This button opens the same windows as described earlier for items which can be set from within application programs. Changes you make here, however, will become the new default settings for all Windows applications.
3. This button prints a test page to ensure that your printer is working.

Advanced tab



1. You can specify which times of day your printer will be available.
2. Indicates current priority, from 1 (lowest) to 99 (highest). Highest priority documents will print first.
3. Specifies that documents should be spooled (stored in a special print file) before being printed. The document is then printed in the background, allowing your application program to become available more quickly. Options follow:

This specifies that printing should not start until the last page has been spooled. If your application program needs a lot of time for further computation in the middle of printing, causing the print job to pause for more than a short period, the printer could prematurely assume that the document has finished. Selecting this option would prevent that situation, but printing will be completed a little later, as the start is delayed.

This is the opposite choice to the one above. Printing starts as soon as possible after the document begins spooling.

4. This specifies that the document should not be spooled, but printed directly. Your application will not normally be ready for further use until the print job is complete. This requires less disk space on your computer, since there is no spool file.
5. Directs the spooler to check the document setup and match it to the printer setup before sending the document to print. If a mismatch is detected, the document is held in the print queue and does not print until the printer setup is changed and the document restarted from the print queue. Mismatched documents in the queue will not prevent correctly matched documents from printing.
6. Specifies that the spooler should favour documents which have completed spooling when deciding which document to print next, even if completed documents are lower priority than documents which are still spooling. If no documents have completed spooling, the spooler will favour larger spooling documents over shorter ones. Use this option if you want to maximise printer efficiency. When this option is disabled the spooler chooses documents based only on their priority settings.
7. Specifies that the spooler should not delete documents after they are completed. This allows documents to be re submitted to the printer from the spooler instead of printing again from the application program. If you use this option frequently it will require large amounts of disk space on your computer.
8. Specifies whether advanced features, such as pages per sheet, are available, depending on your printer. For normal printing keep this option enabled. If compatibility problems occur you can disable the feature. However, these advanced options may then not be available, even though the hardware might support them.
9. This button provides access to the same setup windows as when printing from applications. Changes made via the Windows Control Panel become the Windows default settings.
10. You can design and specify a separator page that prints between documents. This is particularly useful on a shared

printer to help each user find their own documents in the output stack.

NOTE

The above features are provided by the Windows 2000 operating system and will vary with other operating systems.

PRINTER SETTINGS IN MACINTOSH

Refer to the readme file on the drivers CD, CD1, and the online help provided in the driver software.

CONSUMABLES AND MAINTENANCE

This section deals with the replacement of the toner cartridge and image drum and general maintenance.

CONSUMABLE ORDER DETAILS

Item	Life	Order No.
Toner	2,500 A4 @ 5%	01103402
Image drum	25,000 A4 pages*	42102802

* *typical for continuous printing*

Please always use genuine consumables.

TONER CARTRIDGE LIFE

How long your toner cartridge lasts depends on the print density; the percentage of the page that prints black. A typical letter has 3% to 5% print density; graphics usually have higher density. Higher print density means toner is used up faster. At 5% print density, a standard toner cartridge will print an average of 2500 pages. Remember, this is only an average: actual results may vary.

The first toner cartridge installed in a new printer has to fill the image drum reservoir and saturate the developing roller with toner. The first standard toner cartridge normally produces about 1,000 pages after installation.

WHEN TO REPLACE THE TONER CARTRIDGE

Replace the toner cartridge after Toner Low displays in the printer Status Monitor. Also, the Error LED indicator slowly blinks when toner is low. After Toner Low displays, the printer will print about 100 more pages then display Toner Empty and stop printing. Printing will resume after a new toner cartridge has been installed.

REPLACING THE TONER CARTRIDGE

It is recommended that you clean the LED array at the same time as you change the toner cartridge.

The toner used in this printer is a very fine dry powder contained in the toner cartridge.

Have a sheet of paper handy so that you have somewhere to place the used cartridge while you install the new one.

Dispose of the old cartridge responsibly, inside the pack that the new one came in. Follow any regulations, recommendations, etc., which may be in force concerning waste recycling.

If you do spill any toner powder, lightly brush it off. If this is not enough, use a cool, damp cloth to remove any residue. *Do not use hot water, and never use solvents of any kind. They will make stains permanent.*

WARNING!

If you inhale any toner or get it in your eyes, drink a little water or bathe your eyes liberally in cold water. Seek medical attention immediately.

Switch off the printer and allow the fuser to cool for about 10 minutes before opening the top cover.

1. Press the top cover release button and open the printer's top cover fully.

WARNING!

If the printer has been powered on, the fuser may be hot. This area is clearly labelled. Do not touch.

2. Pull the coloured lever on the right side of the toner cartridge towards the front of the printer to close the cartridge then remove the used toner cartridge.
3. Follow the installation instructions on or inside the box containing the new toner cartridge to install the new cartridge.
4. Gently wipe the LED array surface with the LED lens cleaner that came with the new toner cartridge or soft tissue.
5. Close the top cover and press it down to latch it closed.

IMAGE DRUM LIFE

The life of an image drum depends on a number of factors, including temperature and humidity, the type of paper used, and the number of pages per job.

The image drum should last approximately 25,000 pages continuous printing. This number is approximate because different numbers of pages are printed each time and the environmental conditions and the paper type used may vary.

WHEN TO REPLACE THE IMAGE DRUM

When the drum reaches 90% of its life, a CHANGE DRUM message is displayed in the printer Status Monitor. Also, the Error LED indicator blinks fast when the image drum requires changing. Change the image drum when the print becomes faint or begins to deteriorate.

REPLACING THE IMAGE DRUM

It is recommended that you change the toner cartridge and clean the LED array at the same time as you change the image drum.

CAUTION!

The green image drum surface at the base of the cartridge is very delicate and light sensitive. Do not touch it and do not expose it to normal room light for more than 5 minutes. If the drum unit needs to be out of the printer for longer than this, please wrap the cartridge inside a black plastic bag to keep it away from light. Never expose the drum to direct sunlight or very bright room lighting. Always hold the image drum unit by the ends or from the top.

1. Press the cover release and open the printer's top cover fully.

WARNING!

If the printer has been powered on, the fuser may be hot. This area is clearly labelled. Do not touch.

2. Remove the used image drum and toner cartridge.

3. Follow the installation instructions on or inside the box containing the new image drum to install the new image drum.
4. Follow the installation instructions on or inside the box containing the new toner cartridge to install the new toner cartridge.
5. Gently wipe the LED array surface with the LED lens cleaner that came with the new toner cartridge or soft tissue.
6. Close the top cover and press it down to latch it closed.

RESETTING THE DRUM COUNTER

After replacing the image drum, reset the drum counter to keep a correct count of the number of pages printed on the image drum.

1. Start the **Status Monitor** for the printer.
2. Click on Printer Setup tab - Printer Menu button - Maintenance 1 tab.
3. Click the [Reset] button next to Drum Counter, then click on the [OK] button to reset the drum counter.

GENERATING A CLEANING PAGE

If the printed page shows signs of fading, streaking or erratic marks, the problem may be cleared by generating a drum cleaning page as follows.

Using the printer Status Monitor

1. Start the **Status Monitor** for the printer.
2. Click on [Printer Setup] tab - [Printer Menu] button - [Test Print tab] - [Cleaning] button.
3. Open the manual feed tray and insert a sheet of A4 plain paper between the paper guides, then click the [OK] button.
4. The printer grips the paper and prints a cleaning page.
5. If subsequent printing appears faded or uneven, try replacing the toner cartridge.

Using the Control button

1. Press the control button to take the printer off line.
2. Open the manual feed tray and insert a sheet of A4 plain paper between the paper guides.
3. Press and hold down the control button for at least five seconds.
4. The printer grips the paper and prints a cleaning page.
5. Return the printer on line by pressing the control button.
6. If subsequent printing appears faded or uneven, try replacing the toner cartridge.

CLEANING THE LED ARRAY

Clean the LED array whenever a new toner cartridge is installed or if there are faded vertical areas or light printing down a page.

Wipe the LED array gently with the cleaning pad that came with the new toner cartridge or use an anti-static cleaning pad that is generally available for computer cleaning.

TROUBLESHOOTING

STATUS AND ERROR MESSAGES

Your printer has been designed to give you helpful status feedback not only during normal operation but also if a printing problem occurs so that you can take appropriate corrective action.

Both status and error messages are displayed in your chosen language in the Status Monitor, error messages being accompanied by the appropriate flashing of the **Error** indicator. You can set the Status Monitor to pop up on your computer screen when an alert condition occurs from the Preferences tab in the Status Monitor.

PAPER JAMS

Provided that you follow the recommendations in this guide on use of print media, and you keep the media in good condition prior to use, your printer should give years of reliable service. However, paper jams occasionally do occur, and this section explains how to clear them quickly and simply.

Jams can occur due to paper misfeeding from a paper tray or at any point on the paper path through the printer. When a jam occurs, the printer immediately stops, and the operator panel and Status Monitor inform you of the event. If printing multiple pages (or copies), do not assume that having cleared an obvious sheet that others will not also be stopped somewhere along the path. These must also be removed in order to clear the jam fully and restore normal operation.

The printer may experience a paper jam in one of three areas.

- ❖ INPUT JAM - paper has failed to leave the selected feed tray and enter the internal paper path of the printer. A typical message indicates a paper jam and identifies the tray to check.
- ❖ FEED JAM - paper has entered the printer but failed to reach the exit. A typical message indicates a paper jam and advises you to open the top cover for access.
- ❖ EXIT JAM - paper has reached the exit but has failed to exit completely from the printer. A typical message indicates an exit jam and advises you to open the top cover for access.

INPUT JAM

1. Remove the paper tray from the printer.
2. Remove any crumpled or folded paper.
3. Remove any paper from the underside of the printer.
4. Replace the paper tray.

After successful removal of any damaged or misfed paper, the printer should continue printing.

FEED JAM OR EXIT JAM

1. Remove the tray and clear any misfed sheets as given above.
2. Open the top cover.

WARNING!

The fuser area will be hot. This area is clearly marked. Do not touch it.

CAUTION!

Never expose the image drum unit to light for more than 5 minutes. Never expose the image drum unit to direct sunlight. Always hold the image drum unit by the ends or from the top. Never touch the surface of the green drum inside the image drum unit.

3. Carefully lift out the image drum, complete with the toner cartridge. Be careful not to touch or scratch the green drum surface.
4. Remove any jammed sheets from the paper path.
5. Re-install the image drum complete with toner cartridge, ensuring that it correctly locates into the slots on each side of the printer.
6. Close the top cover and press down to latch it closed.

7. The printer will warm up and commence printing when ready. The page lost through the jam will normally be reprinted.

NOTE

If the edge of the jammed paper protrudes (or can be seen) from the exit, reinstall the image drum, close the top cover and switch the printer on. Remove the jammed paper from the exit when the exit roller begins rotating after a few seconds after switching on. However, if the jammed paper cannot be removed, contact a service representative.

PRINT QUALITY PROBLEMS

Before consulting a service representative regarding a print quality problem, check the table below to see if there is a solution, or something you might have overlooked.

Symptom	Problem	Solution
Blank sheets printed.	Image drum cartridge not properly installed.	Reinstall image drum cartridge.
	Empty or missing toner cartridge.	Install new toner cartridge.
Entire page prints faintly.	Empty toner cartridge. Pages get fainter when toner is used up.	Install new toner cartridge.
	LED array is dirty.	Clean LED array.
Page has grey background.	Static electricity, generally from dry environments, causes toner to stick to background.	Change paper to a smoother laser bond or use a humidifier.
Page prints all black.	Hardware problem.	Contact service.
Page has repetitive marks.	Damaged image drum cartridge causes repetitive marks every 1.6 inches (4.06 cm) due to surface nicks and scratches.	Generate a cleaning page, repetitive marks may be temporary.
Oblong area of faint print appears on each page.	Drop out caused by using paper exposed to high humidity.	Change paper stocks, check paper storage environment or use a dehumidifier; check toner level.

Symptom	Problem	Solution
Vertical white streaking or faint areas on page.	Toner is low and does not distribute properly, or the drum is worn out.	Replace toner cartridge. Check drum and replace the drum, if necessary. Contact service.
	LED array is dirty.	Clean LED array.
Vertical black lines.	Hardware problem.	Contact service.
Fuzzy print.	LED array is dirty.	Clean LED array.
Distorted print.	Paper path, lamp assembly, or fusing unit problem.	Generate cleaning page. Contact service.
Faded print.	Toner cartridge is not correctly installed.	Install toner cartridge correctly.
	Toner low.	Replace toner cartridge.
Smeared or blotched print.	Dirty rollers; toner dropped inside printer or image drum problem.	Replace image drum and toner. Contact service.
Printed page is light/ blurred.	Is toner low?	Replace toner cartridge.
	Is paper meant for laser printers?	Use recommended paper.
	LED array is dirty.	Clean LED array.
Bold characters and dark lines are smeared.	Toner is low.	Install new toner cartridge.
Print is darker than usual.	Darkness setting is too high.	Change darkness setting.
Pages curl excessively.	Printing on wrong side of paper.	Turn paper over in tray. (Note arrow on paper package). Install paper print side down in tray.
	Moisture in paper. Improper storage.	Avoid storing paper in areas of excessive temperature and humidity. Store paper in protective wrapping.
	High humidity.	Recommended operating humidity: 20-80%

SOFTWARE PROBLEMS

Your software (operating environment, applications and printer drivers) controls the printing process. Make sure you have selected the right driver for use with your printer. See your software documentation for more information.

Symptom	Problem	Solution
Printing is garbled.	Incorrect driver is installed.	Install an appropriate driver.
Printer's output is below rated speed.	Much of the printing delays will be caused by your application. Sometimes purely text documents will print slowly depending on the selected fonts and how they are transferred to the printer.	For maximum speed, use text in your document and use a printer resident font.
Size of top margin increases with each page printed.	Creeping text. Number of lines per page in software is not equal to number of lines per page of printer.	Many software packages assume 66 lines per page, but your printer's default is 64. Adjust software accordingly, or set LINES Per PAGE in the soft control panel to equal lines per page in your software.

HARDWARE PROBLEMS

Symptom	Problem	Solution
When you try to print nothing happens, but printer indicates it is ready to receive data.	Configuration error.	Check cable connection. If more than one printer is available, make sure your printer has been selected.
Garbage prints.	Incorrect cable configuration. Also, see Software Problems.	Check cable configuration, continuity, and length.
Printer freezes or displays error message when computer is rebooted.	Booting the computer while the printer is on can cause a communications error.	Turn printer off before rebooting computer.
Odours.	Gases are given off by forms or adhesives passing through the hot fusing unit.	Make sure the forms you use can withstand heating, and provide adequate ventilation.
Printer is on but must warm up before a job is printed.	Power Save mode is set on to conserve energy. The fuser must heat up before you can begin printing the next job.	To eliminate warm up delay, change Power Save setting

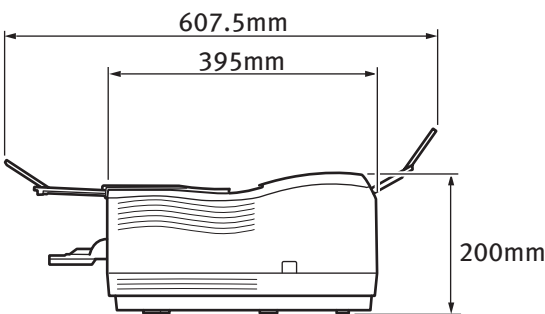
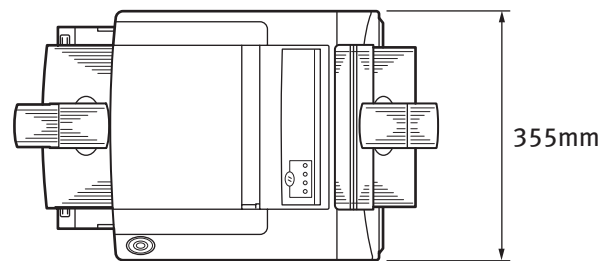
SPECIFICATIONS

GENERAL

A summary of the basic characteristics of your printer appears in the table below:

Item	Specification
Dimensions	See the following section entitled "Overall Dimensions"
Weight	9 kg approximately
Printing method	Electro-photographic printing using LEDs as light source
Print colour	Monochrome
Print speed	18 pages per minute maximum
Resolution	1200 x 600 dots per inch
Emulation	Host-based
Interfaces	Parallel port in compliance with IEEE 1284-1994 standard USB 2.0 full speed
Processor	200 MHz PowerPC
Memory	8 MB
Paper sizes	A4, A5, A6, B5, Letter, Legal 13, Legal 14, Executive, Custom, Envelopes (5 types)
Paper feed	Automatic feeding via paper tray, T1 Manual feeding of single sheets via manual feed, MF
Paper feed capacity at 80g/m ²	Cassette (Tray 1): 250 sheets
Paper output	Face up, Face down depending on paper size, type and thickness
Paper output capacity at 80g/m ²	Face up: 50 sheets Face down: 150 sheets
Printer life	5 years or 180,000 pages (average 3,000 pages/month)
Consumables	Toner cartridge, Image drum

OVERALL DIMENSIONS



PAPER AND TRAY INFORMATION

Feed and ejection methods vary depending on the type, size and thickness of medium used. Use the chart below and the notes/ symbols/terms on the following page for initial guidance. (Minor variations to settings may be necessary depending on user setup and environmental conditions.)

			Feed		Ejection	
			Cassette		Method	
Paper type	Size	Weight	T1	MF	FU	FD
Plain paper	A4	L, ML, M	o	o	o	o
	A5	MH, H	x	o	o	x
	B5					
	Letter					
	Executive					
	Legal (13)	L, ML, M	o	o	o	o
	Legal (14)	MH, H	x	o	o	x
	A6	L, ML, M	o	o	o	x
Envelopes		MH, H	x	o	o	x
	Custom	L, ML, M	o	o	o	o
	W: 90 – 216	MH, H	x	o	o	x
	L: 148 – 356					
	Com-9	–	x	o	o	x
	Com-10					
	DL					
	C5					
Labels	Monarch					
	Custom					
Transparencies	W: 90 – 216					
	L: 148 – 356					
Labels	A4	–	x	o	o	x
	Letter					
Transparencies	A4	–	x	o	o	x
	Letter					

NOTES/SYMBOLS/TERMS

Notes:

1. Paper smaller than A5 (i.e. less than 210mm long) should be ejected face up.

Symbol/Term	Meaning
T1	Paper Tray 1
MF	Manual Feed
FU	Face Up printing from the rear of the printer
FD	Face Down printing from the top of the printer
W, L	Width, Length in mm
L	Light paper weight: 59 - 66g/m ²
ML	Medium Light paper weight: 67 - 73g/m ²
M	Medium paper weight: 74 - 88g/m ²
MH	Medium Heavy paper weight: 89 - 104g/m ²
H	Heavy paper weight: 105 - 122g/m ²
o	Can be used
x	Cannot be used

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